

100  
 FIGURE 1

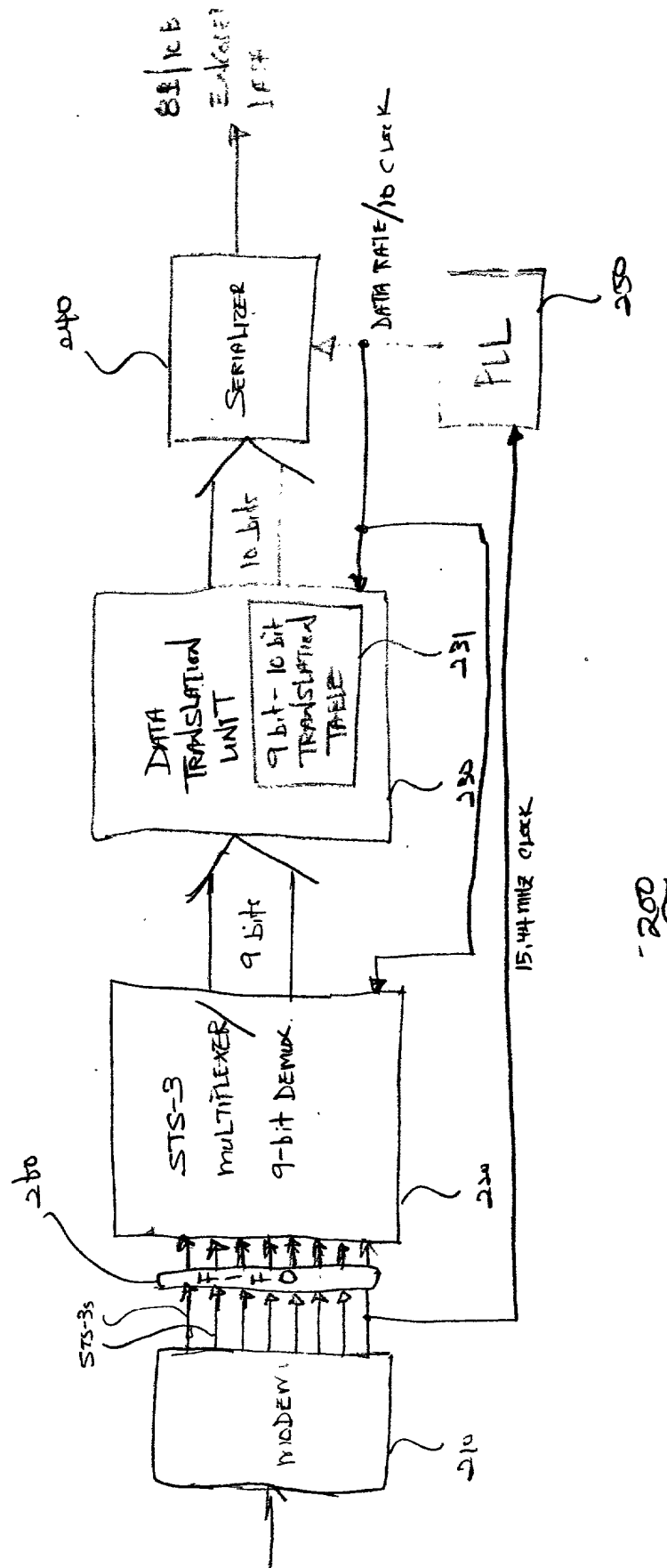


FIGURE 2

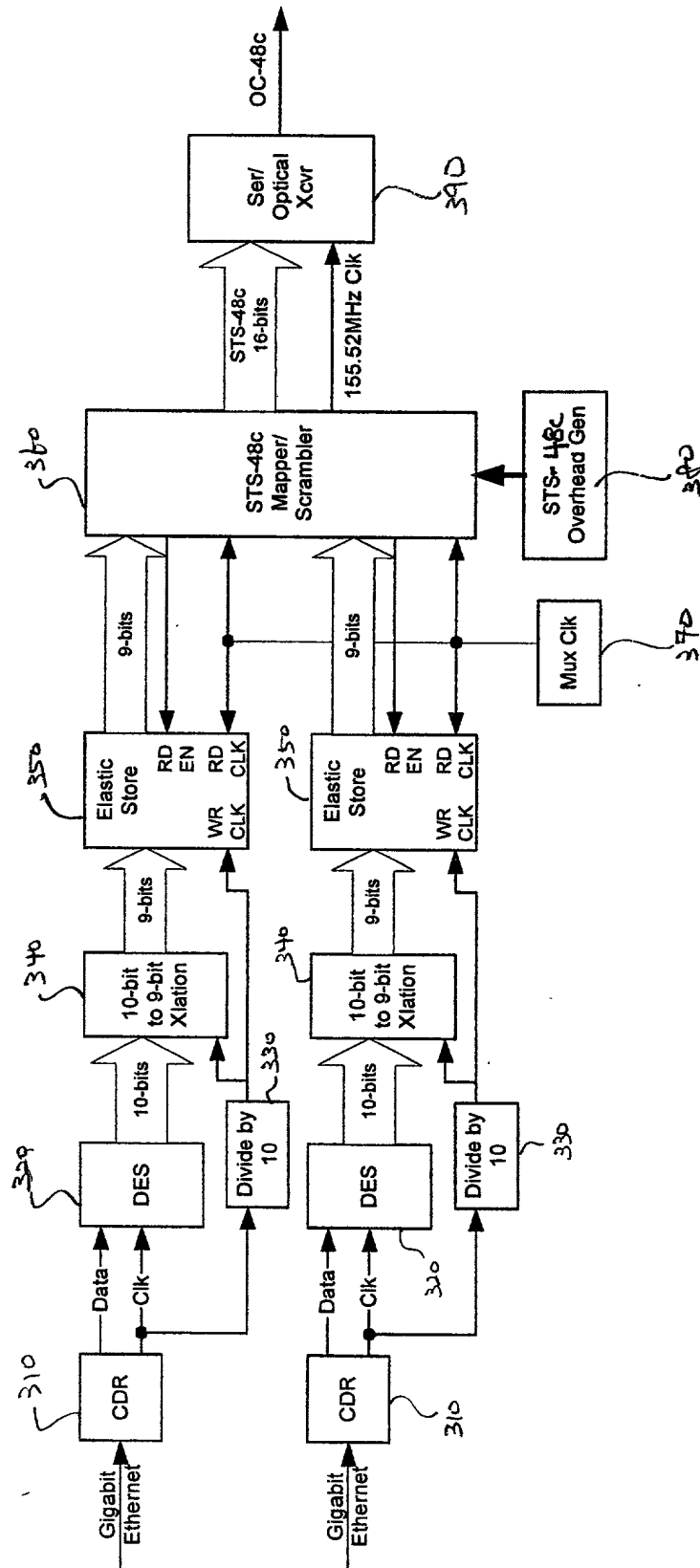


Figure 3

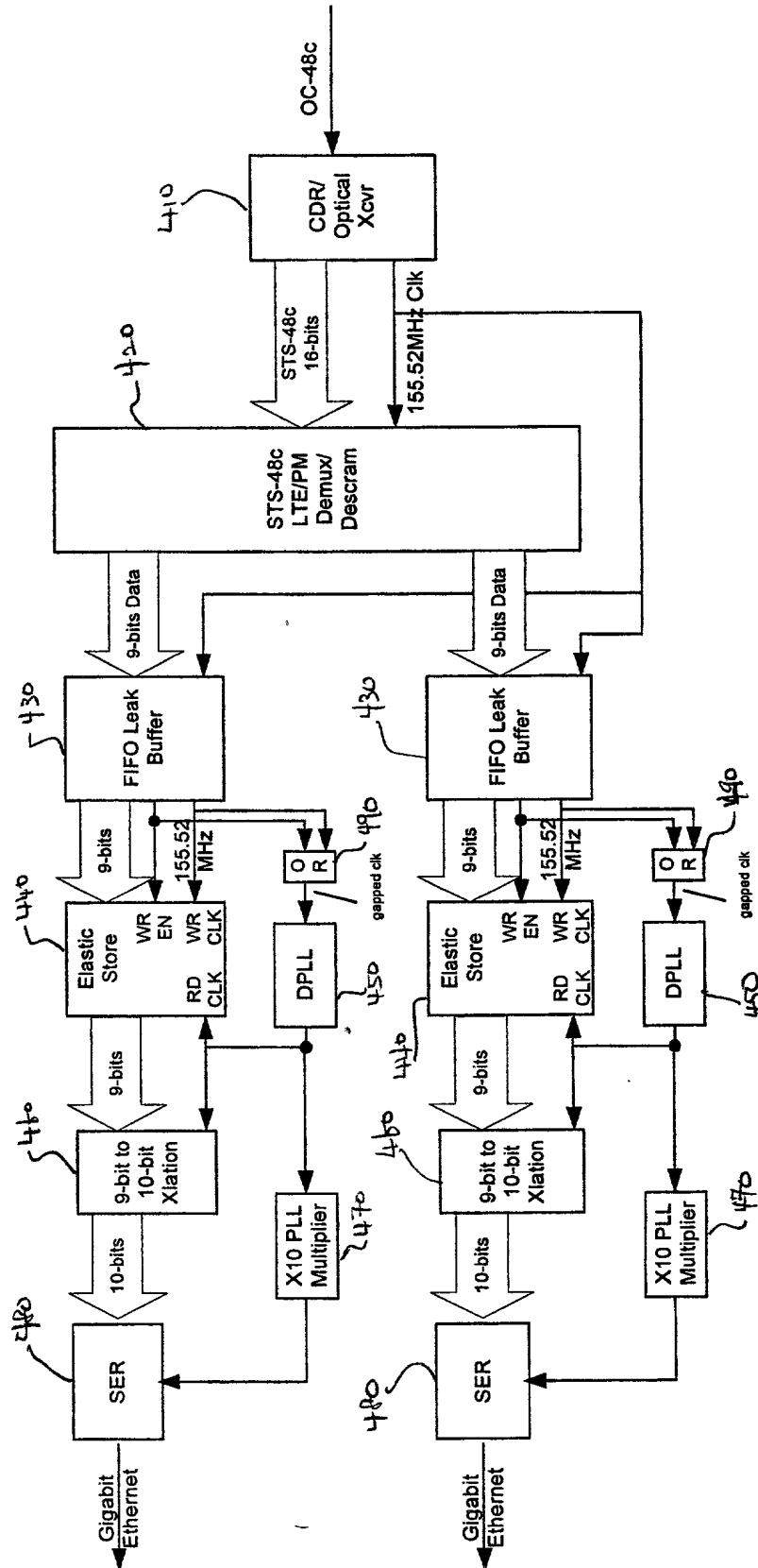


FIGURE 4

[illegible]

Figure 5



|     |     |     |     |     |   |     |     |         |       |     |      |       |    |    |
|-----|-----|-----|-----|-----|---|-----|-----|---------|-------|-----|------|-------|----|----|
| A1  | A1  | A1  | A2  | A2  | R | ANS | 2 R | 3 BIP-8 | 98 I2 | 7 R | 2 R2 | 98 I2 | R2 | R2 |
| BR  | BR  | R   | R   | R   | R | R   | 2 R | 3 R     | 98 I2 | 7 R | 2 R2 | 98 I2 | R2 | R2 |
| ID1 | ID2 | ID3 | R   | R   | R | R   | 2 R | 3 R     | 98 I2 | 7 R | 2 R2 | 98 I2 | R2 | R2 |
| R   | R   | R   | R   | R   | R | R   | 2 R | 3 R     | 98 I2 | 7 R | 2 R2 | 98 I2 | R2 | R2 |
| R   | R   | R   | R   | R   | R | R   | 2 R | 3 R     | 98 I2 | 7 R | 2 R2 | 98 I2 | R2 | R2 |
| K   | K   | R   | R   | R   | R | R   | 2 R | 3 R     | 98 I2 | 7 R | 2 R2 | 98 I2 | R2 | R2 |
| R   | R   | R   | R   | R   | R | R   | 2 R | 3 R     | 98 I2 | 7 R | 2 R2 | 98 I2 | R2 | R2 |
| R   | R   | R   | R   | R   | R | R   | 2 R | 3 R     | 98 I2 | 7 R | 2 R2 | 98 I2 | R2 | R2 |
| R   | R   | R   | P11 | P11 | R | R   | 2 R | 3 R     | 98 I2 | 7 R | 2 R2 | 98 I2 | I2 | P1 |

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FIGURE 7

| BYTE  | DEFINITION  | VALUE  |
|-------|---|--|
| A1    | Framing byte  | 0xF6   |
| A2    | Framing byte  | 0x28   |
| BIP-8 | BIP-8 per STS-1 as defined in GR-253                              | N/A  |
| BR    | Bit Rate ID byte  | First 8-bit byte of bit rate code that corresponds to a software defined bitrate. Bit rates should include: Fibre Channel, Gig-E, 1130 RZ, 565 RZ, Unavailable.  |
| BR1   | Bit Rate ID byte  | Second 8-bit byte of bit rate code that corresponds to a software defined bitrate. Bit rates should include: Fibre Channel, Gig-E, 1130 RZ, 565 RZ, Unavailable. |
| ID1   | Frame identification Byte   | Least significant 6 bits correspond to the most significant 6 bits of the 14-bit ID code.  |
| ID2   | Frame identification byte   | Least significant 8 bits of the 14 bit ID code.  |
| ID3   | Frame identification byte   | Least significant 3 bits correspond to STS# 0 through 7.   |
| R     | 8 bit fixed stuff   | 0xFF   |
| R1    | 9 bit fixed stuff   | 0x1FF  |
| R2    | 10 bit fixed stuff  | 0x3FF  |
| I     | 9 bit data  | N/A  |
| I1    | Fibre Channel 10 bit data   | N/A  |
| I2    | VRH-RZ 10 bit data  | For 1129.84 Mb/s, I2=11111111 (I=information bit)<br>For 564.92 Mb/s, I2=11111111  |
| P1    | P stuff byte indication. Stuffing used to prevent FIFO overflows  | 0xFF => P byte = R1, 0x00 => P byte = I  |
| P11   | P1 stuff byte indication. Stuffing used to prevent FIFO overflows | 0xFF => P1 byte = R2, 0x00 => P1 byte = I1   |
| P     | 9-bit stuff   | I or R1 dependent on STS #. P shall need to be I when needed to prevent a FIFO overflow; otherwise, it's R1.   |
| P1    | 10-bit stuff  | I1 or R2 dependent on STS #. P1 shall need to be I1 when needed to prevent a FIFO overflow; otherwise, it's R2.  |
| ANS   | Alarm Notification Signal byte                                    | 0x00 => normal, 0xFF => alarm  |

800

FIGURE 8

## VRVH pseudo STS-3 Frame

|     |     |     |    |       |       |   |     |     |         |          |          |          |          |                        |      |
|-----|-----|-----|----|-------|-------|---|-----|-----|---------|----------|----------|----------|----------|------------------------|------|
| A1  | A1  | A1  | A2 | A2    | A2    | R | ANS | 2 R | 3 BIP-8 | (X) I(n) | (D) R(a) | (E) R(b) | (Y) I(n) | R(b)                   | R(b) |
| BR  | BR1 | R   | R  | R     | R     | R | R   | 2 R | 3 R     | (X) I(n) | (D) R(a) | (E) R(b) | (Y) I(n) | R(b)                   | R(b) |
| ID1 | ID2 | ID3 | R  | R     | R     | R | R   | 2 R | 3 R     | (X) I(n) | (D) R(a) | (E) R(b) | (Y) I(n) | R(b)                   | R(b) |
| R   | R   | R   | R  | R     | R     | R | R   | 2 R | 3 R     | (X) I(n) | (D) R(a) | (E) R(b) | (Y) I(n) | R(b)                   | R(b) |
| R   | R   | R   | R  | R     | R     | R | R   | 2 R | 3 R     | (X) I(n) | (D) R(a) | (E) R(b) | (Y) I(n) | (V)R(b) or<br>(!V)I(n) | R(b) |
| R   | R   | R   | R  | R     | R     | R | R   | 2 R | 3 R     | (X) I(n) | (D) R(a) | (E) R(b) | (Y) I(n) | (K)R(b) or<br>(!K)I(n) | R(b) |
| R   | R   | R   | R  | R     | R     | R | R   | 2 R | 3 R     | (X) I(n) | (D) R(a) | (E) R(b) | (Y) I(n) | (H)R(b) or<br>(!H)I(n) | R(b) |
| R   | R   | R   | R  | R     | R     | R | R   | 2 R | 3 R     | (X) I(n) | (D) R(a) | (E) R(b) | (Y) I(n) | (G)R(b) or<br>(!G)I(n) | R(b) |
| R   | R   | R   | R  | PI(d) | PI(d) | R | R   | 2 R | 3 R     | (X) I(n) | (D) R(a) | (E) R(b) | (Y) I(n) | (S)R(b) or<br>(!S)I(n) | P(d) |

FIGURE 9

## Configuration Parameters for each data rate

| Parameter | Gigabit Ethernet | Fibre Channel | 1.129984Gbps | 1.114112 Gbps |
|-----------|------------------|---------------|--------------|---------------|
| X         | 109              | 95            | 98           | 97            |
| n         | 0                | 1             | 2            | 2             |
| D         | 5                | 7             | 7            | 2             |
| a         | 0                | 0             | 0            | 0             |
| E         | 5                | 14            | 2            | 9             |
| b         | 1                | 2             | 2            | 2             |
| Y         | 108              | 89            | 98           | 96            |
| d         | 0                | 1             | 1            | 1             |
| V         | 1                | 1             | 1            | 1             |
| K         | 1                | 0             | 1            | 1             |
| H         | 1                | 0             | 1            | 0             |
| G         | 1                | 0             | 1            | 0             |
| S         | 1                | 0             | 0            | 0             |

FIGURE 10

## Frame byte definitions

| BYTE  | DEFINITION   | VALUE   |
|-------|--|---|
| A1    | Framing byte   | 0xF6  |
| A2    | Framing byte   | 0x28  |
| BIP-8 | BIP-8 per STS-1 as defined in GR-253                               | N/A   |
| BR(1) | Bit Rate ID byte   | 16-bits correspond to a software defined bitrate. Bitrates should include: Fibre Channel, Gig-E, 1130 RZ, 565 RZ, Unavailable |
| ID1   | Frame identification Byte  | Least significant 6 bits correspond to the most significant 6 bits of the 14-bit ID code.                                     |
| ID2   | Frame identification byte  | Least significant 8 bits of the 14 bit ID code.   |
| ID3   | Frame identification byte  | Least significant 3 bits correspond to STS# 0 through 7.  |
| R(0)  | 8 bit fixed stuff  | 0xFF  |
| R(1)  | 9 bit fixed stuff  | 0x1FF   |
| R(2)  | 10 bit fixed stuff   | 0x3FF   |
| I(0)  | 9 bit data   | N/A   |
| I(1)  | Fibre Channel 10 bit data  | N/A   |
| I(2)  | VRH-RZ 10 bit data   | For 1129.84 Mb/s, I2=iiiiiii (i=information bit)<br>For 564.92 Mb/s, I2=11111iiii   |
| PI(0) | P stuff byte indication. Stuffing used to prevent FIFO overflows.  | 0xFF => P byte = R1,<br>0x00 => P byte = I  |
| PI(1) | P1 stuff byte indication. Stuffing used to prevent FIFO overflows. | 0xFF => P1 byte = R2,<br>0x00 => P1 byte = I1   |
| P(0)  | 9-bit stuff  | I or R1 dependent on STS #. P shall need to be I when needed to prevent a FIFO overflow; otherwise, it's R1.                  |
| P(1)  | 10-bit stuff   | I1 or R2 dependent on STS #. P1 shall need to be I1 when needed to prevent a FIFO overflow; otherwise, it's R2.               |
| ANS   | Alarm Notification Signal byte                                     | 0x00 => normal,<br>0xFF => alarm  |

FIGURE 11

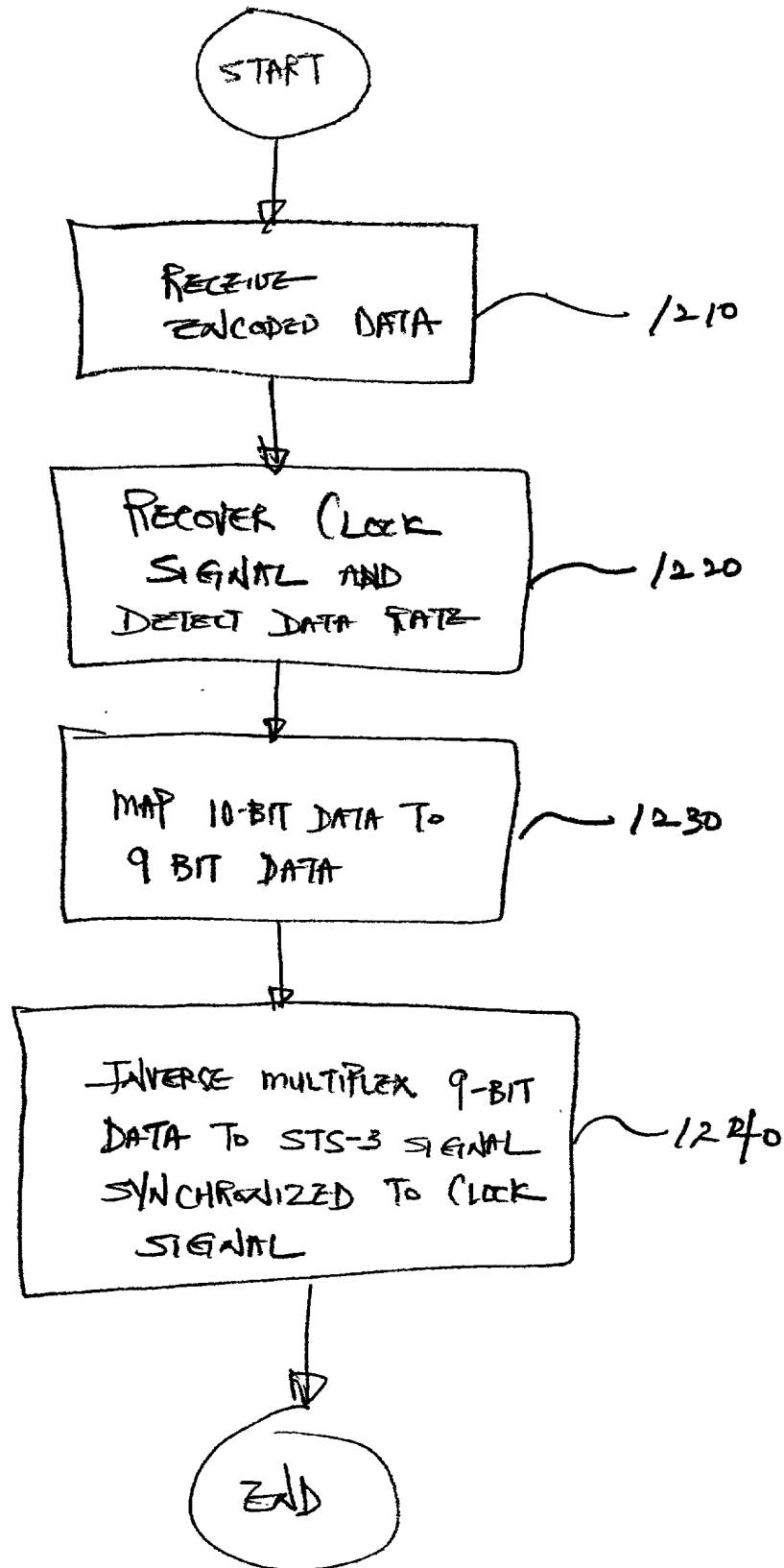


FIGURE 12

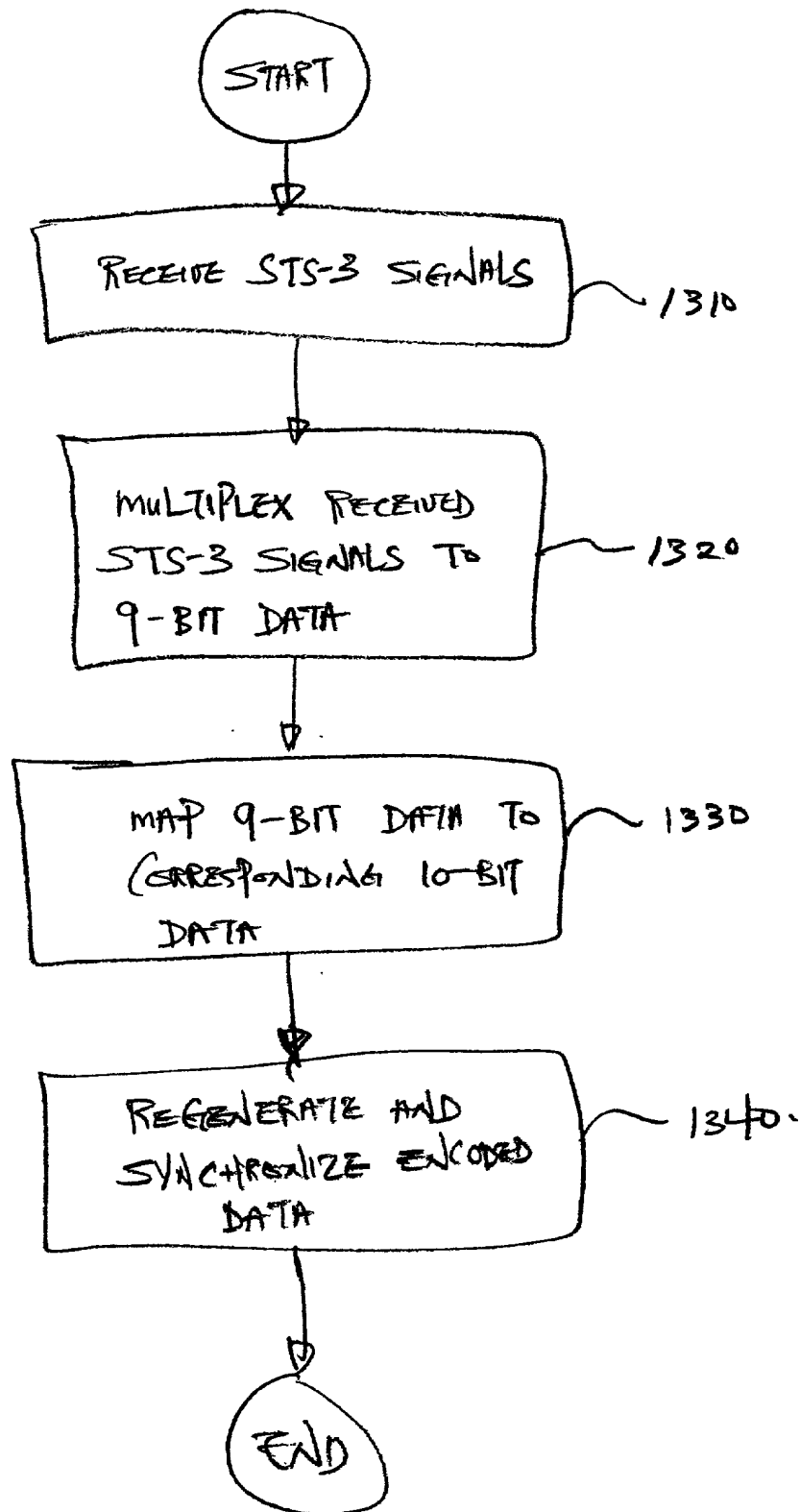


FIGURE 13